

## REMARKS

The above noted amendment to the specification has been made so as to correct a readily apparent error encountered during a review of the specification. No new matter is introduced by the proposed amendment to the specification.

By this paper, claims 1, 8 and 20 have been amended. Claims 7 and 12 – 14 have been cancelled. Finally, new claims 21 – 39 have been added. The claims are submitted as being clearly distinct and patentable over the art of record and, therefore, their entry and allowance by the Examiner is requested.

In the Office Action, the Examiner objected to claim 20 as being a substantial duplicate of claim 1. Applicants respectfully disagree. Step two of claim 1 requires the reaction to take place in the presence of an acid catalyst. Claim 20, on the other hand, requires the reaction of step B at a pH of between 3.0 and 7.0. These limitations are not co-extensive and reconsideration by the Examiner is requested.

Claims 1, 3 and 20 were rejected under 35 U.S. C. § 112, second paragraph, as being indefinite. The claims are directed to a method for removing acrolein from a process stream. The process stream includes all intermediate process streams in the recovery and purification of acrylonitrile and acrylic acid. *See* page 4, line 21 to page 5, line 8. The invention is not limited to the purification of acrylonitrile.

The acrolein derivative is dependent upon the type of scavenger used. The derivative can include acrolein acetals and acrolein thioacetals. *See* page 5, line 9 to page 6, line 7 of the specification.

The Examiner also included that it was not clear if the acid catalyst is part of the process stream or not. As set forth on page 6, lines 8 – 26 of the specification, the acid catalyst can be a part of the process stream, can be a solid acid catalyst or can be added to the process stream. All of these options are included within the scope of the invention.

In the Office Action, claims 1 – 6, 8 – 13 and 15 – 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Stevens et al., and Shibano et al. In view of the foregoing amendments and following remarks, reconsideration and allowance of the claims is earnestly requested.

Claim 7 which required the scavenger compound to contain a reactable hydroxyl moiety was not rejected over the prior art. By this paper, independent claims 1 and 20 have been amended to require that the scavenger compound contain a reactable hydroxyl moiety. Accordingly, it is respectfully submitted that claims 1 and claim 20 are allowable over the art of record. Further, all of the claims dependent from claim 1 are also allowable.

By this paper, new claims 21 – 39 have been added. Independent claims 21 and – 39 are similar to original claims 1 and 20, but are limited to acrylonitrile process streams.

The Stevens, *et al.* reference is directed to the purification of unsaturated nitriles such as acrylonitrile. Stevens teaches that the removal of acrolein does not present a problem. *See* column 1, lines 23 – 32. In particular, Stevens states at column 1, lines 28 – 32, “the acrolein, for example, without treatment, readily dimerizes to the water-soluble dimer and does not go overhead when acrylonitrile is distilled, but remains in the waste water from the absorber.” Thus, there is no teaching or suggestion in Stevens that trace amounts of acrolein can remain in the process streams which need to be or can be removed by the process of the present invention.

The Shibano, *et al.* reference discloses a process for the purification of carboxylic acids. It does not disclose the purification of acrylonitrile nor is there any suggestion that the processes of Shibano could be utilized to remove acrolein from an acrylonitrile process stream. Acrylic acid is a different end product than acrylonitrile. Accordingly, it is respectfully submitted that there is no teaching or suggestion to combine the teachings of Shibano and Stevens.

In view of the foregoing, it is respectfully submitted that all of the claims are in condition for allowance, and favorable consideration by the Examiner is requested. Should the Examiner find any impediment to the prompt allowance of the claims which

could be corrected by telephone interview with the undersign, the Examiner is requested to initiate such an interview.

Respectfully submitted,



Craig M. Lundell

Reg. No. 30,284

Howery, LLP  
1111 Louisiana, 25<sup>th</sup> Floor  
Houston, TX 77002  
(713) 787-1415

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